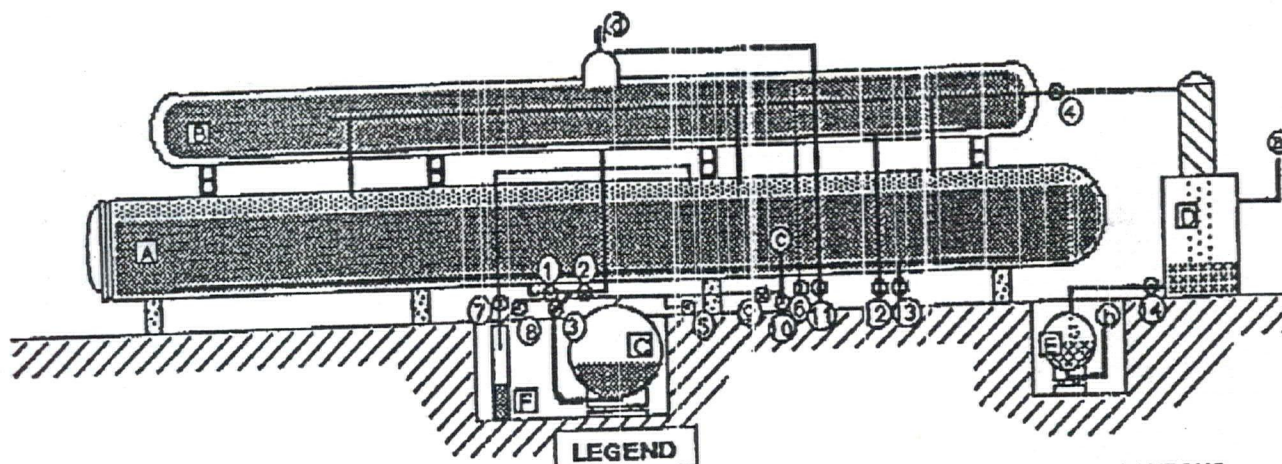


SF File Number

23.3**DRAFT**

1263504 - R8 SDMS

**PROCESS UNITS**

- A Retort
- B Rueping Tank
- C Scale Tank
- D Condenser
- E Condenser Scale Tank
- F 10" Overflow Pot

PIPE VALVE CONTROL

- 1 10" Drain and Fill Retort
- 2 10" Drain and Fill Rueping
- 3 4" Drain and Fill Scale Tank
- 4 8" Vapor Header
- 5 2" Air to Scale Tank
- 6 2" Blowback Line
- 7 2" Retort Overflow
- 8 2" Scale Tank Overflow
- 9 2" L.P. Air or Vent
- 10 6" L.P. Air or Vent
- 11 6" Rueping Tank Vent
- 12 2" Steam to Rueping Tank
- 13 2" Steam to Retort
- 14 2" Condensor to Scale

MISCELLANEOUS

- a To Vacuum Pump
- b To Drain
- c To Low Pressure Tank
- d Pressure Relief Valve
- ▨ Treating Solution
- ▨ Hot Vapors
- ▨ Condensate

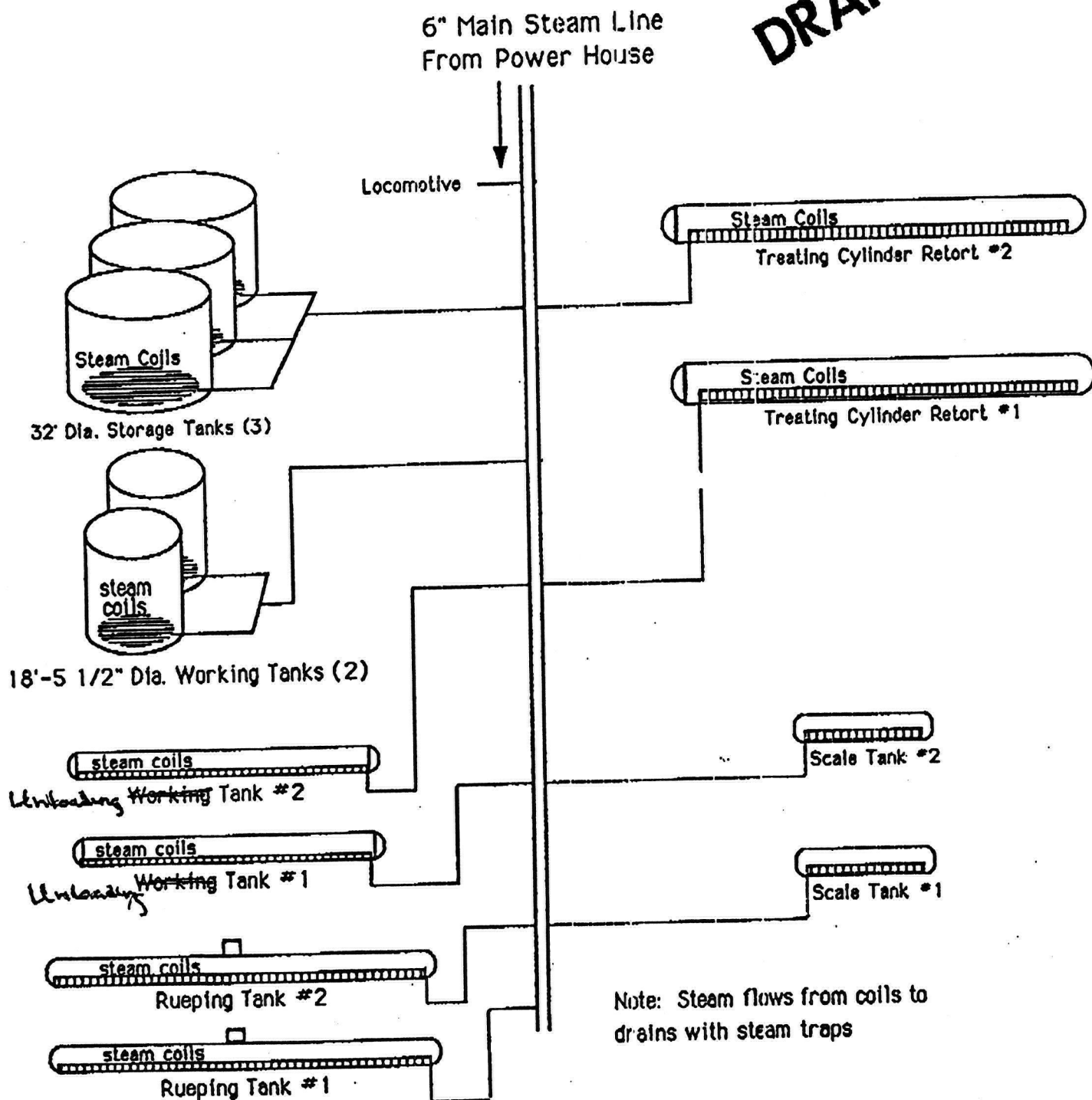
BOULTON TREATING PROCESS

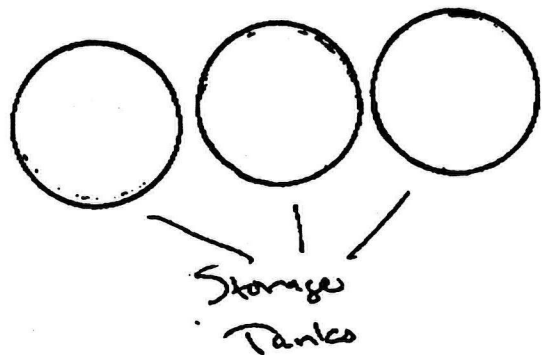
- Start** Charge in Retort, door closed, Rueping tank full, Rueping tank temperature at 180 degrees.
- Step 1** 10" Valves 1 & 2 opened, 3 closed allowing solution to drain from Rueping Tank into bottom of Retort.
- Step 2** Retort full, Valve 2 closed, 3 opened allowing 40,000 lbs solution withdrawn from Retort and drained into scale tank. Solution is withdrawn to allow room for boiling and the resulting formation of vapor. Also, this allows a vacuum without drawing oil into the 8" vapor header.
- Step 3** With 40,000 lbs withdrawn, 1 and 3 are closed, 8" Valve 4 opened, Vacuum Pump started, draws vapors from Retort through 8" Vapor Header into Condenser, then to Vacuum Pump and discharged outside. Cooling water in Condenser is maintained at 110 degrees, cooling hot vapors and changing them into condensate in Condenser, then drained into Condenser Scale Tank for weighing. Total amount of condensate to be withdrawn is about 2.3 lbs per cubic foot of ties in charge.
- Step 4** Total amount condensate extracted, Vacuum Pump shut off, valve 4 closed. The Retort is now filled to total capacity using the 40,000 lbs from Scale Tank earlier drawn off.
- Step 5** Retort full, Valves 1 and 3 open, air pressure is now let into Scale Tank through Valve 5 forcing oil up into Retort under 140 PSI. Pressure is maintained until about 7.3 lbs of solution is absorbed into each cu. ft. of ties in charge.
- Step 6** Absorption finished, Valve 1 closed, Valve 2 open, 140 PSI in Scale Tank forces oil up into Rueping Tank. Scale Tank empty, Valve 3 closed, 1 opened, 6 open to air pressure to Blowback Line and into 8" Header, forcing oil in Retort up into Rueping Tank. When Rueping Tank is full, remainder is forced into Scale Tank.
- Step 7** Retort empty of solution, 1 and 2 closed, Vacuum Pump started and draws excess oil off ties, Vacuum Pump stopped, excess oil drained into Scale Tank, charge is now finished.

STEAM FLOW DIAGRAM

Somers Tie Blend

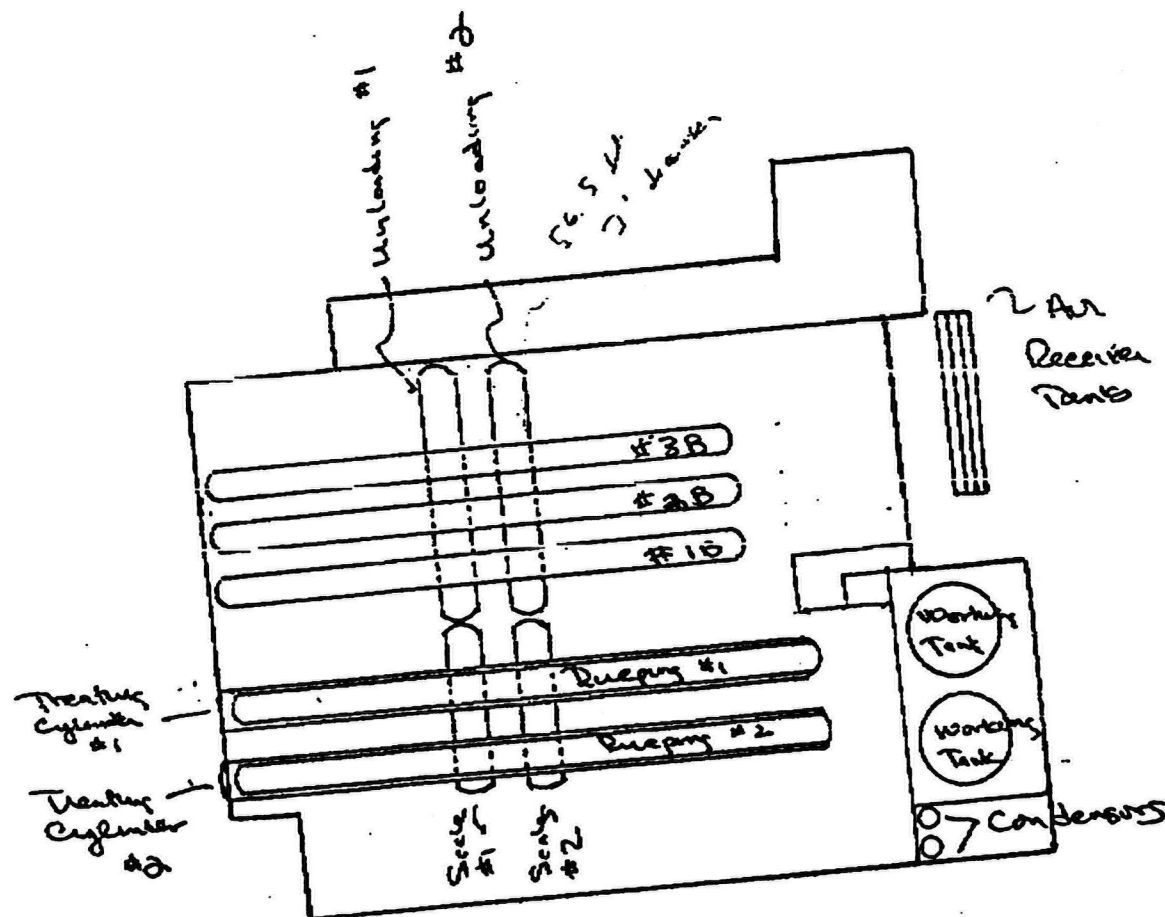
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